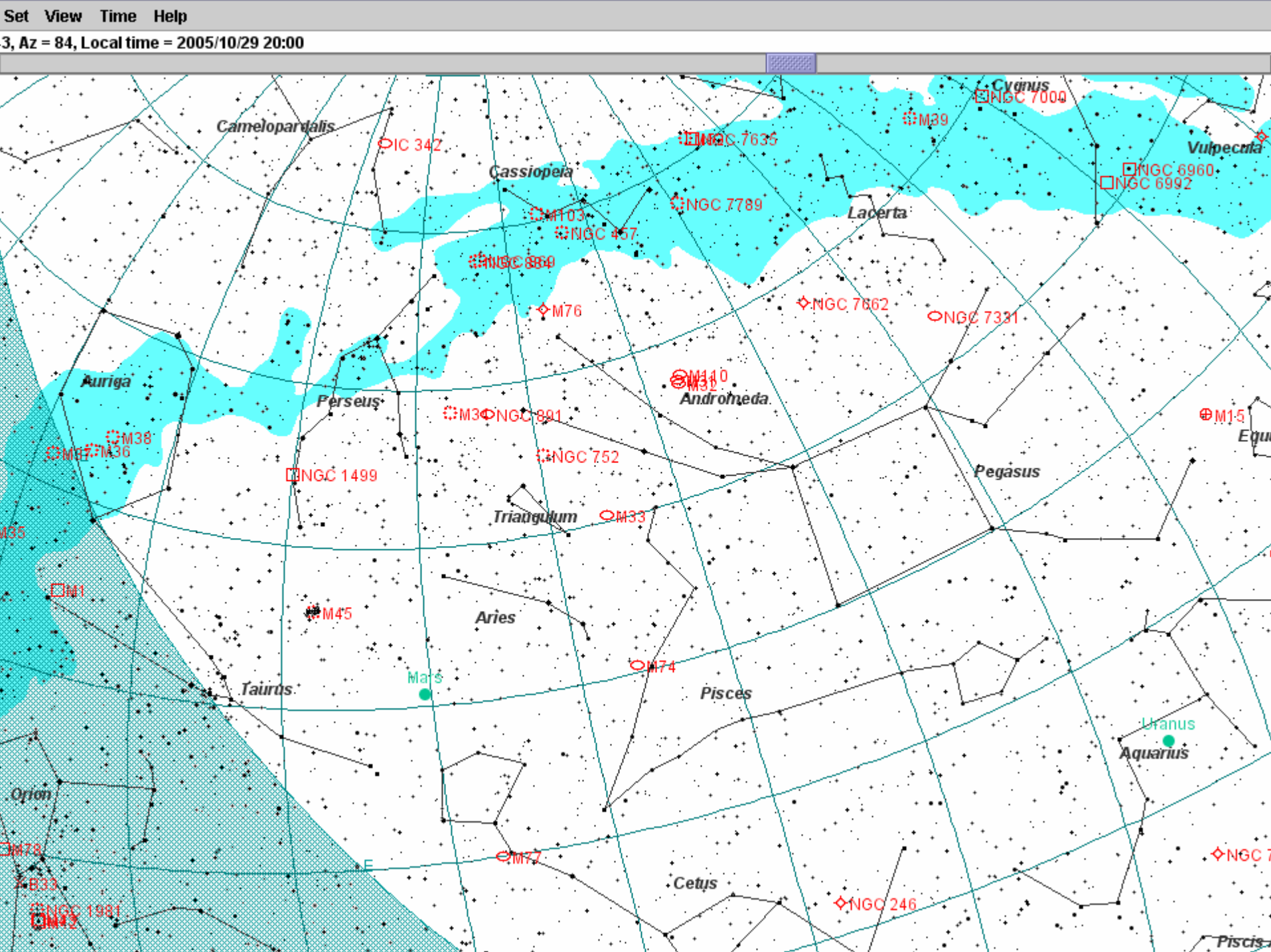
A Tour of the Messier Catalog

~~ in ~~

Eight Spellbinding and Enlightening Episodes

~~ This Being Episode Eight ~~

The Voyage Home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Camelopardalis
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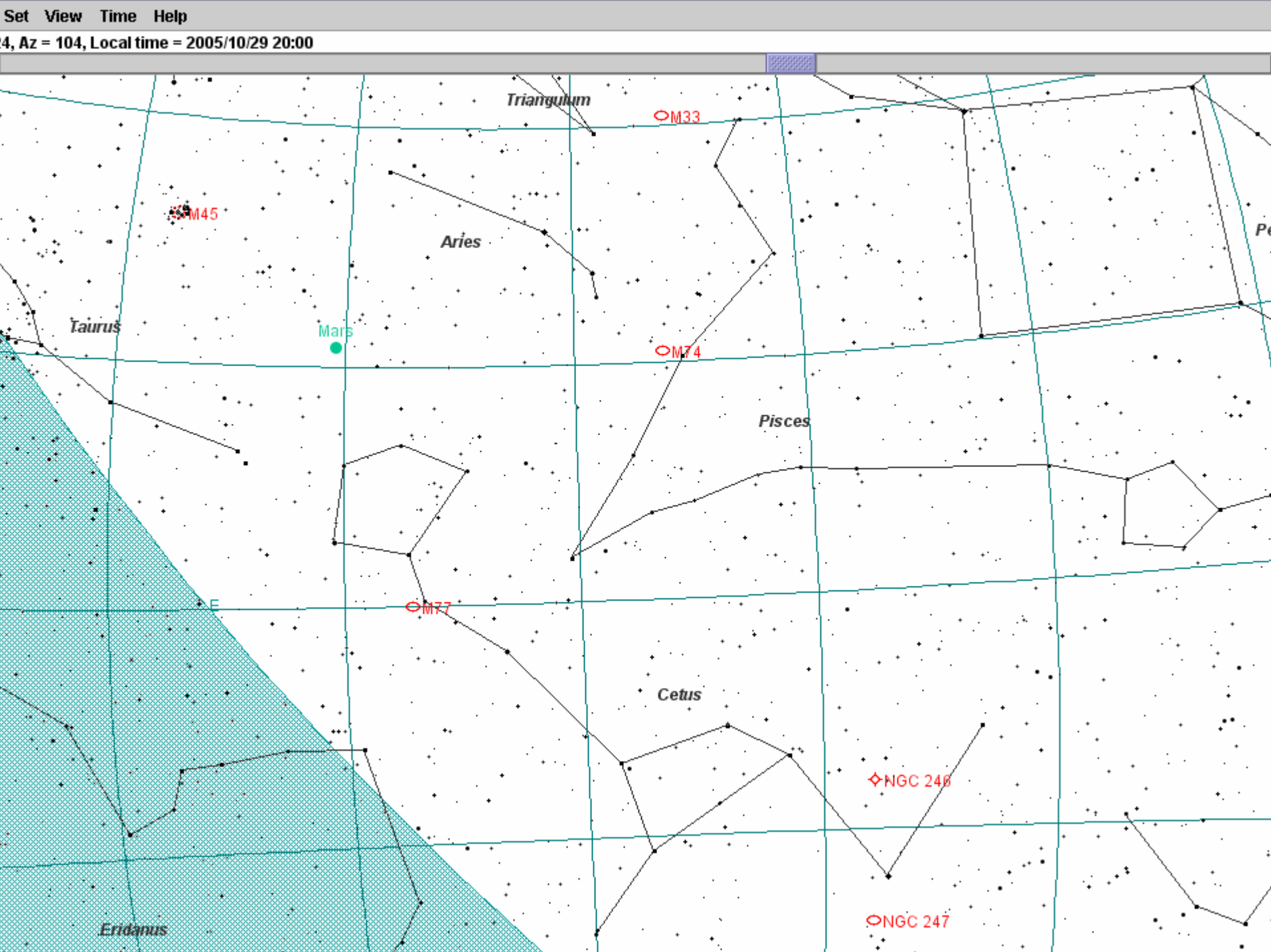
Cassiopeia
NGC 7635
M39
Cygnus
NGC 7000
Vulpecula
NGC 6960
NGC 6992
NGC 7789
M103
NGC 457
Lacerta
NGC 869
M76
NGC 7662
NGC 7331
M110
M31
Andromeda
Auriga
Perseus
M34
NGC 891
M38
M37
M36
NGC 752
NGC 1499
Pegasus
M15
Triangulum
M33
M35
M1
M45
Aries
M74
Mars
Taurus
Pisces
Uranus
Aquarius
Orion
M78
M77
Cetus
NGC 246
B33
NGC 1981
M42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Triangulum
M33
M45
Aries
Taurus
Mars
M74
Pisces
E
M77
Cetus
NGC 246
NGC 247
Eridanus

M77 – Spiral Galaxy
Constellation – Cetus the Whale

NOAO/AURA/NSF

Right Ascension	02 : 42.7
Declination	-00 : 01 (deg:m)
Distance	60000 (kly)
Visual Brightness	8.9 (mag)
Apparent Dimension	7x6 (arc min)

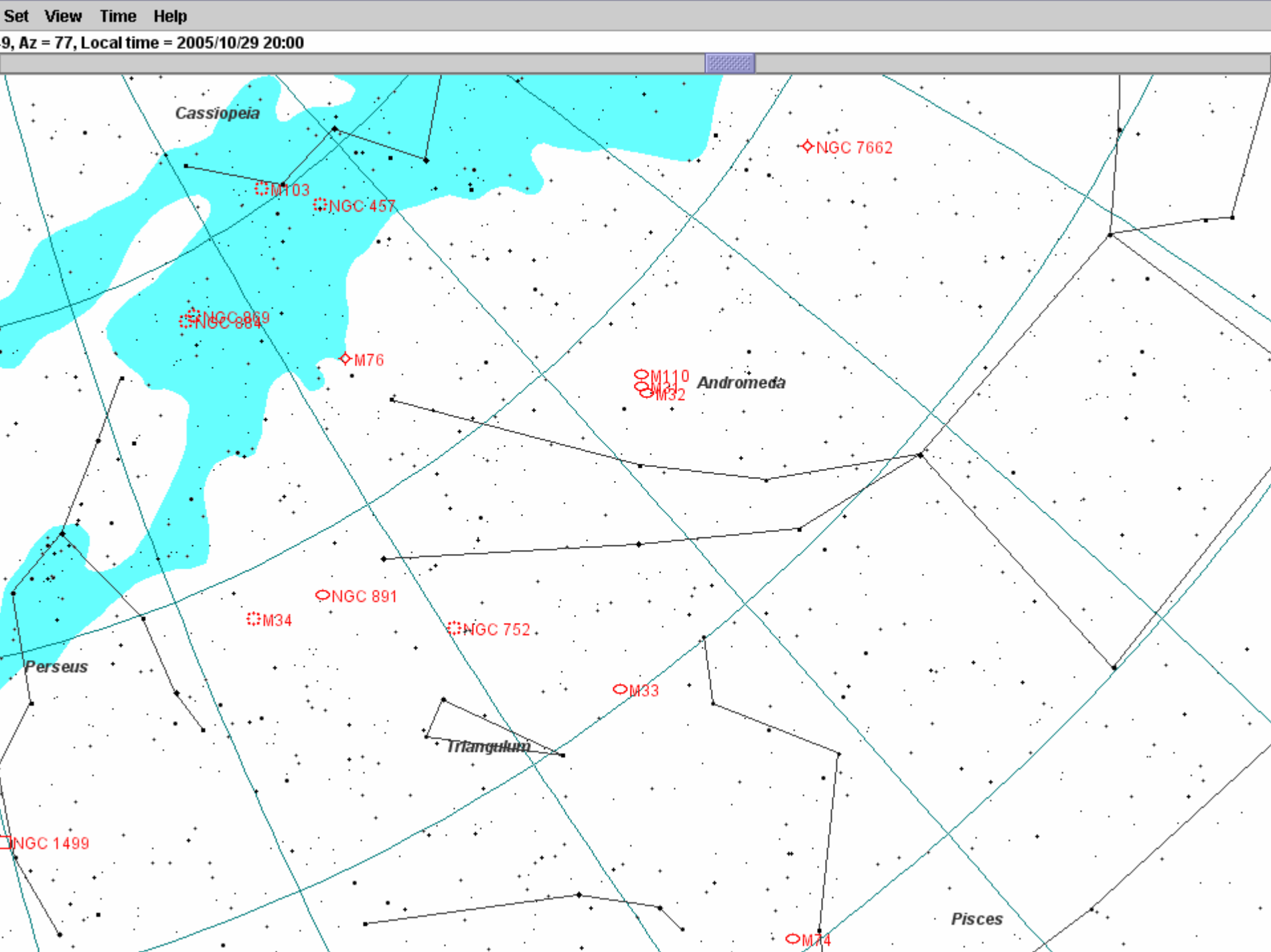
- One of the largest Messier galaxies - nearly 170,000 LY in diameter!
- Very tight, compact Sb-type spiral
- Strong radio source ‘Cetus A’ in the nucleus
- Major member of a small galaxy cluster - ~10 galaxies

M74 – Spiral Galaxy
Constellation – Pisces

NOAO/AURA/NSF

Right Ascension	01 : 36.7 (h:m)
Declination	+15 : 47 (deg:m)
Distance	35000 (kly)
Visual Brightness	9.4 (mag)
Apparent Dimension	10.2x9.5 (arc min)

- One of the fainter Messier objects
- Contains 193 known H II, or star-forming regions
- Bright, dense core; good conditions are needed to make out the arms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Cassiopeia
M103
NGC 457
NGC 7662
NGC 869
NGC 884
M76
M110
M31
M32
Andromeda
NGC 891
M34
NGC 752
Perseus
M33
Triangulum
NGC 1499
Pisces
M74

M33 – Spiral Galaxy
Constellation – Triangulum

Brian Kimball

Right Ascension	01 : 33.9 (h:m)
Declination	+30 : 39 (deg:m)
Distance	3000 (kly)
Visual Brightness	5.7 (mag)
Apparent Dimension	73x45 (arc min)

- The ‘Pinwheel’ Galaxy
- Very large, but low surface brightness
- Naked-eye in very dark skies
- 3rd largest galaxy in the local group (after M31 and the Milky Way)
- Widely spaced arms and many H II regions

M34 – Open Cluster
Constellation – Perseus

NOAO/AURA/NSF

Right Ascension	02 : 42.0 (h:m)
Declination	+42 : 47 (deg:m)
Distance	1.4 (kly)
Visual Brightness	5.5 (mag)
Apparent Dimension	35.0 (arc min)

- Contains about 100 stars; about 20 brighter stars surrounded by fainter members
- A little larger across than the full moon
- Contains many pairs of stars, including a bright double near the center – h1123 – with a separation of about 20”
- A brighter non-member foreground star is in the field

NGC 891 – Edge-On Spiral Galaxy
Constellation – Andromeda

Brian Kimball

Right Ascension	02 : 22.6 (h:m)
Declination	+42 : 21 (deg:m)
Distance	10000 (kly)
Visual Brightness	10.0 (mag)
Apparent Dimension	13.5x2.8 (arc min)

- This IS NOT a Messier object, but is a ‘must see’ while you are in the neighborhood!
- In addition to NGC4565, this is one of the most famous, largest and most beautiful examples on an edge-on spiral galaxy
- The thick dust lane can be traced along its entire length
- Discovered by Caroline Herschel, sister of William Herschel
- Located halfway between M34 and Gamma Andromedae

M31 – Spiral Galaxy
Constellation – Andromeda

Brian Kimball

Right Ascension	00 : 42.7 (h:m)
Declination	+41 : 16 (deg:m)
Distance	2200 (kly)
Visual Brightness	3.4 (mag)
Apparent Dimension	178x63 (arc min)

- Wow! The Great Andromeda Galaxy
- Easy naked-eye spiral – our closest major neighbor in the Local Group of galaxies
- Can be traced out to 4°
- Several bands of dark dust lanes visible, as well as brighter H II regions
- Companions M32 and M110 in same low-power field

M32 – Elliptical Galaxy
Constellation – Andromeda

NOAO/AURA/NSF

Right Ascension	00 : 42.7 (h:m)
Declination	+40 : 52 (deg:m)
Distance	2900 (kly)
Visual Brightness	8.1 (mag)
Apparent Dimension	8x6 (arc min)

- Companion to M31
- Type E2 dwarf elliptical galaxy
- Due south of M31's nucleus, superimposed on the far edge of M31's spiral arms
- Appears as a bright, round patch

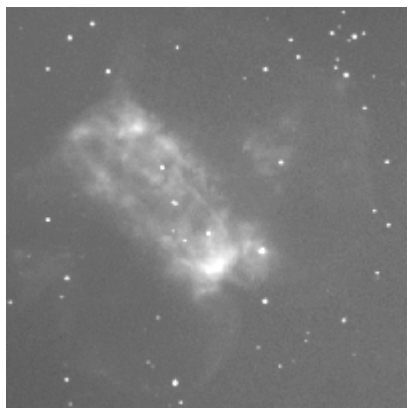
NOAO/AURA/NSF

M110 – Galaxy
Constellation – Andromeda

Right Ascension	00 : 40.4 (h:m)
Declination	+41 : 41 (deg:m)
Distance	2900 (kly)
Visual Brightness	8.5 (mag)
Apparent Dimension	17x10 (arc min)

- The largest of M31's satellite galaxies
- Classified as an E5 or E6 peculiar elliptical due to some observed dust structure
- Sketched by Messier with M31 & and M32, but for some reason left off his list – it was finally added in 1966!
- Despite its small size, this dwarf elliptical has 8 globular clusters, the largest is 15th mag

NOAO/AURA/NSF



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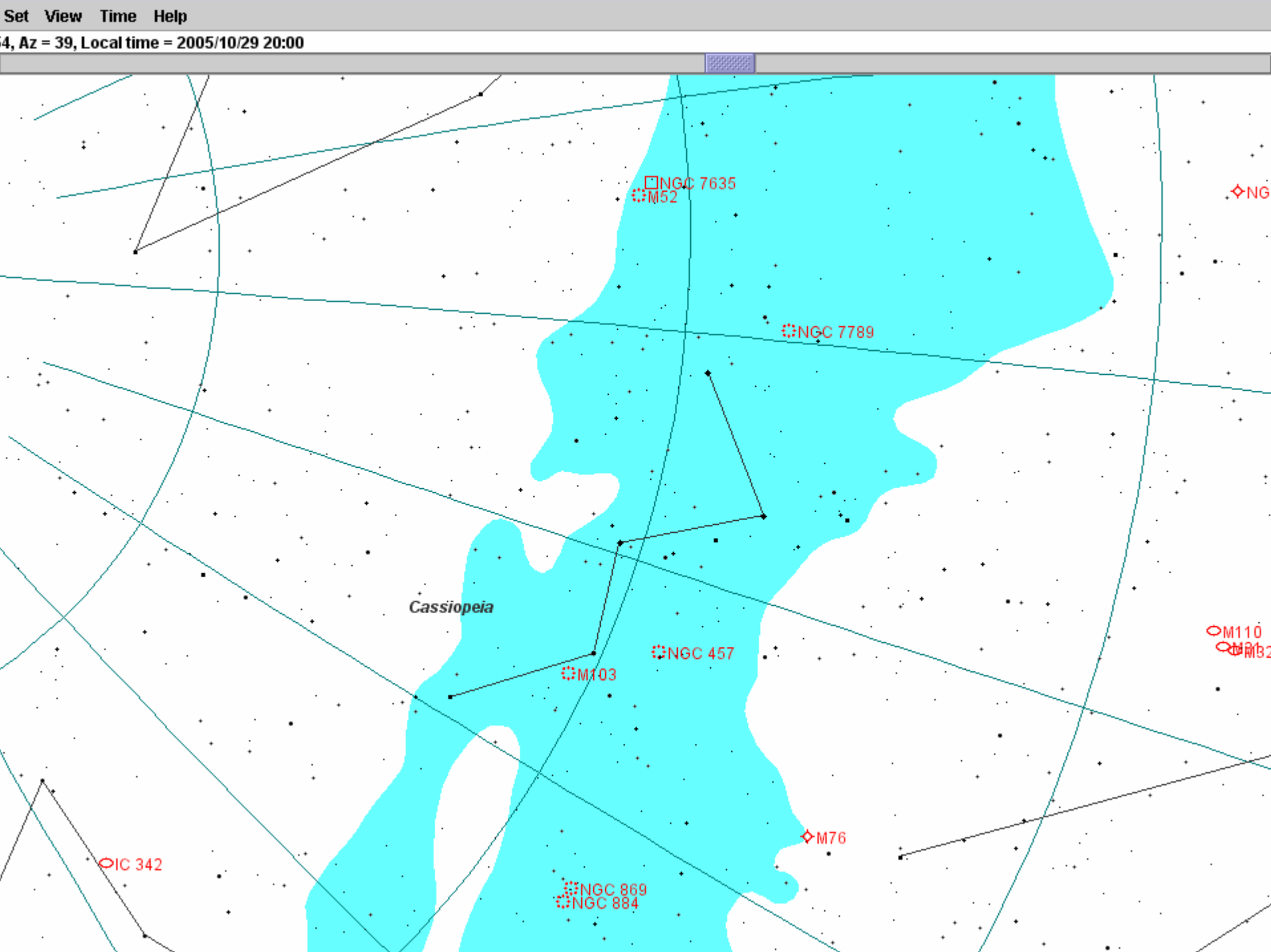
M76 – Planetary Nebula
Constellation – Perseus

Right Ascension	01 : 42.4 (h:m)
Declination	+51 : 34 (deg:m)
Distance	3.4 (kly)
Visual Brightness	10.1 (mag)
Apparent Dimension	2.7x1.8 (arc min)

- The ‘Little Dumbbell’ Nebula
- One of the faintest Messier objects
- The brightest central region appears rectangular in shape
- The irregular shape contains two fainter ‘wings’ or bubbles expanding on each side of the central bar region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NGC 7635
M52
NG
NGC 7789
Cassiopeia
M110
M32
NGC 457
M103
M76
IC 342
NGC 869
NGC 884

M103 – Open Cluster
Constellation – Cassiopeia

NOAO/AURA/NSF

Right Ascension	01 : 33.2 (h:m)
Declination	+60 : 42 (deg:m)
Distance	8.5 (kly)
Visual Brightness	7.4 (mag)
Apparent Dimension	6.0 (arc min)

- Loose open – population estimates range from 40 to 170 stars
- Striking field of bright stars, dominated by a large red star in the center
- The bright double on the NW edge has a separation of about 14’, but is not a physical member of the cluster

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M52 – Open Cluster
Constellation – Cassiopeia

Right Ascension	23 : 24.2 (h:m)
Declination	+61 : 35 (deg:m)
Distance	5.0 (kly)
Visual Brightness	7.3 (mag)
Apparent Dimension	13.0 (arc min)

- Rich and compressed open cluster
- Contains about 200 members
- Has a bright yellow star on the SW edge
- 36’ SW lies the faint ‘Bubble Nebula’

Credits & Acknowledgements:

Star Maps:	Night Vision, courtesy of Brian Simpson
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Photos:	Brian Kimball National Optical Astronomy Observatory